



2001-2002

October 18, 2002

Lieutenant Colonel Michael McCormick  
District Engineer  
U.S. Army Corps of Engineers  
San Francisco District  
333 Market Street, 8th Floor  
San Francisco, CA 94105-2197

Attention: Calvin Fong  
Chief, Regulatory Branch

Mr. William Travis  
Executive Director  
San Francisco Bay Conservation and Development Commission  
30 Van Ness Avenue, Suite 2011  
San Francisco, CA 94102-6080

Attention: Ande Bennett, Coastal Permit Analyst

Subject: Cargill Maintenance Report  
Cargill Salt Files: 2000.005:0a and 2000.012:131  
COE File: 19009S98  
BCDC File: 4-93

Dear Lt. Col. Michael McCormick and Mr. Travis:

Enclosed is Cargill's **eighth** report of completed maintenance activities as required by our Corps of Engineers and San Francisco Bay Conservation and Development Commission permits. Our purpose is to look back in time, report on completed activities, and assess the impacts, if any, of the maintenance activities and the success of our Best Management Practices. We also provide, as best as we can, an advanced look at activities that may be of interest to agencies and the public. Both the BCDC and Corps permits have similar requirements. This is a joint report to both agencies.

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Two years ago we published a pamphlet entitled, *Working in a Wildlife Environment*. This document assessed our maintenance practices over the last five full years of our operations as regulated by the two, major regional permits. We believe that summary confirmed the success of our Best Management Practices (BMPs), some codified in the permits, but many developed and implemented by Cargill's solar salt maintenance personnel over the life of the permit. Since that report was sent out, we have begun using a new, exciting practice for work in sloughs, directional drilling and that will be highlighted in this report.

What is important to note, is that our continued efforts towards improving our best management practices and directional drilling are just the latest improvements. Recipients of these annual reports will recall the very difficult negotiations and concerns over dredge lock operations and levee maintenance practices. Those negotiations led to the current permits. Our continued reporting shows that the acreage of sensitive marshes impacted by our levee maintenance has been reduced on an annual basis by 25%, a resounding success by any measure. Even more important, the acreage impacts directly related to dredge lock operations were reduced by 47%. Finally, the time period within which marsh vegetation is able to rebound and reach productive heights and coverage has been reduced from five years to approximately two years, another remarkable success.

This year's report focuses on the first year of a two-year major reconstruction effort for the aging solar salt system. Maintenance activities have been on a downward trend as the entire system has rebounded from some difficult weather years. Staff time has been redirected to complete the permitted, major activities, which involved a renewed focus on the solar salt system after a number of years of routine reports. New construction or major replacement projects have been the recent focus of our efforts.

As always, maintenance is deferred or postponed when sensitive species are present. For example, in the Baumberg salt pond system, for the second year in a row, the threatened Snowy Plover was found in pond areas so maintenance and water movement activities were strictly curtailed.

Simultaneously, as noted, this report also provides **Advanced Notification** (COE term) or **Supplemental Notification** (BCDC term) of any proposed supplemental

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activities, in the period between the **Final Notification**, due by March 1 of each year, and this report prepared each fall. This gives the agencies and Cargill an opportunity to review, in advance, activities that may require additional biological surveys, modifications to BMPs, or changes in agreed upon protocols. By providing this advanced or supplementary notification, there will be sufficient time to incorporate agreed upon changes into the final notification, which is the blueprint for next year's work.

**Significant events occurring during this year's reporting period are discussed below:**

As noted, early maintenance efforts were routine: levee maintenance by our dredge, *The Mallard*, regrading of levee tops, placement of riprap and replacement of some culverts. The real focus of this report is the completion of two critical infrastructure projects, brine lines across both Mowry and Newark Sloughs, using the new (for Cargill anyway), directional drilling practice. This year's and next year's completion reports will reflect the rehabilitation work approved by BCDC and by the Corps of Engineers.

The most significant work completed this year will support the rehabilitated solar salt production system. In previous years, gaps were excavated in a number of levees to allow enhanced brine flows within the system and better coverage of salt ponds with brines. In the existing salt pond system, new more energy efficient pumps are being installed on remodeled pump platforms. When the intake capacity at the Coyote intake is expanded (that work is currently underway and will be completed in 2003) the gaps will allow relatively unrestricted flows of brines between ponds. The gaps in the levees have the ancillary benefit of further restricting predator access and, in effect, creating safe islands for waterfowl and shorebirds.

The other significant work activity is the work being undertaken in the Baumberg Tract by the dredge, *Mallard*, in support of the Eden Landing Restoration Project. Work began on the North Creek Channel during this reporting period and subsequently, the dredge has moved into Pond 10 to construct a new tidal access to the restoration. That activity will be completed shortly and completely reported in next year's report.

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In previous years we have reported on the possibility of new structures that would facilitate the interim restoration of salt ponds proposed for purchase by the public. That proposal is still under review by various agencies and, as a result, no advanced reporting is contained within this report.

The initial drafting of this report was undertaken by Kristy Gonzalez, a civil engineering student from San Jose State, Cargill's engineering intern for the summer of 2002. Questions related to the items enclosed can be directed to me at (510) 790-8156 or Barbara Ransom at (510) 790-8182. Specific comments should be sent to both Mr. Calvin Fong at the Corps of Engineers, Regulatory Functions Branch, 333 Market Street, 8<sup>th</sup> Floor, San Francisco, CA 94105-2197, (415) 977-8460; and Ms. Andrea Bennett, BCDC, 50 California Street, Suite 2600, San Francisco, CA 94111, (415) 352-3626 by October 31, 2001.

Very truly yours,



Robert C. Douglass  
Manager, Real Property

RCD:djm  
Enclosures:

Cc: Distribution List  
Kristy Gonzalez



Cargill Salt's Completed Maintenance Report 2001 - 2002  
 San Francisco District Corps of Engineers Permit 19009E98  
 San Francisco Bay Conservation and Development Commission Permit 4-93  
 dark shading = completion, light shading = in progress

## REDWOOD CITY

Task No.	Ponds Involved	Activity / Function	Duration of Activity	COE <sub>2</sub>	BCDC <sub>2</sub>	Size/Scope	Comments
58	1-10, 7A, 7B, 7C, 8E, 8W, 9A, & SF2	Grading	Ongoing May through August	N/A	2b		Routine grading of levee top to provide vehicle access. Where present, grading will not occur in active WSP/seabird nesting areas.
59	1	Rip-rap	Ongoing through August	1e	1c	500 lf, 300 cy	Maintenance of existing rip-rap areas.
60	2	Deepens basin, improves pump hydraulics. Excavated material used to form donut levee.	Bid contractor work in July, complete by October 2001	1d	2c	1000 cy excavation. Need for donut levee.	Excavate 10' x 10' wet well near CP-2/SF-2 siphon pipe and add donut levees with one 36" gate, 1000 cy excavation and fill.
61	2	Pump platform required to support new pump.	Through October of 2001	1d	2c		Construct pump platform 10' x 20' and install 600 lf of 20" HDPE pipe south west corner at siphon to facilitate flow of /brine/bitterns to Newark plant. Additional work will be applied for by SFPUC under separate permit. ♦

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Task No.	Ponds Involved	Activity <sub>1</sub> / Function	Duration of Activity	COE <sub>2</sub>	BCDC <sub>2</sub>	Size/Scope	Comments
62	3	Levee topping "Mallard"	Jan 02 through Aug 02 or Sep 02 through Jan 03 (Depending on bird survey results)	1a	2e		Top & beach with dredged muds, cross levee (4, 5)
63	4	Enter dredge lock	Jan 02 or Sep 02	2d	1a		
64	4	Discing	Ongoing May through August 2001	N/A	2b		Discing dredged muds placed on levee top.
65	4	Rip-rap	Ongoing through August 2001	1e	2a	100 lf, 120 cy	Maintenance of existing rip-rap areas.
66	5	Discing	Ongoing May through August 2001	N/A	2b		Discing dredged muds placed on levee top.

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Task No.	Ponds Involved	Activity <sub>1</sub> / Function	Duration of Activity	COE <sub>2</sub>	BCDC <sub>2</sub>	Size/Scope	Comments
67	5	Levee topping "Mallard"	Jan 02 through Aug 02 or Sep 02 through Jan 03 (Depending on bird survey results)	1a	2e		Top and beach with dredged muds, cross levee (3,4 S5).
68	S5	Discing	Ongoing May through August	N/A	2b		Discing dredged muds placed on levee top.
69	S5	Levee topping "Mallard"	Jan 02 through Aug 02 or Sep 02 through Jan 03 (Depending on bird survey results)	1a	2e		Top and beach with dredged muds, cross levee (4,5).

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Task No.	Ponds Involved	Activity <sub>1</sub> / Function	Duration of Activity	COE <sub>2</sub>	BCDC <sub>2</sub>	Size/Scope	Comments
70	7A	General levee maintenance	Ongoing	2a	2a	3,000 lf	Build-up low areas as needed on cross levee 7A - 8W with land-based equipment.
71	7A	General levee maintenance	Ongoing	2a	2a	1,300 lf	Build up low areas as needed on cross levee (7A & 7C), (7A & 7B) with land-based equipment.
72	7B	General levee maintenance	Ongoing	2a	2a	1,000 lf	Build up low areas as needed on cross levee 7B - 7C with land-based equipment.
73	7C	Pipeline will allow two pumps to work simultaneously and pump in different directions.	Contractor work July through October 2001	2g	2c	200 lf	Install 200 lf of 24" pipe to allow 2-way flow in Belle Haven Donut. Improve ability to manage brines and bitterns simultaneously in a confined area. ♦
74	7C	New gate will allow better internal circulation.	Contractor work July through October 2001	2c	2b		Install new 36" x 25' pipe and screw gate into existing donut levee in order to improve system operability. ♦
75	8E	General levee maintenance	Ongoing	2a	2a	4,000 lf	Build up levee berm with land-based equipment.
76	9A	General levee maintenance	Ongoing	N/A	2a	300 lf	Spot key levee as needed.
77	9A	Improve pump hydraulics.	Ongoing	2d	2d		Clean bittern deep storage sump of solids. So solids to be discharged into BP 9.



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Task No.	Ponds Involved	Activity <sub>1</sub> / Function	Duration of Activity	COE <sub>2</sub>	BCDC <sub>2</sub>	Size/Scope	Comments
78	10	General levee maintenance	Ongoing	2a	2a	150 lf	Spot key levee as needed.
79	10	Discing	Ongoing May - August	N/A	2b		Discing dredged muds placed on levee top.
80	SF2	Cooperation with SFPUC for installation of 30" pipeline to continue operations during SFPUC construction.	Contractor work, July to October 2001	2g	2c		5,000 lf of 30" HDPE pipe to connect to transbay pipeline. ♦
81	SF2	Normal maintenance	Ongoing to May	1a	2b	Replace in kind.	Screw gate removed for pipeline (Task 80).
82	SF2 (inside levee)	Rip-rap	Ongoing through August	1e	2a	100 lf, 120 cy	Maintenance of existing rip-rap areas.
83	Shipping pier	Maintenance	Ongoing	1a	1d		Repair various pilings, dolphins, walkways as needed.



## COMPLETED WORK ANNOTATED

### **TASKS 12, 13, 14, 15, 19, & 25**

This work is primarily in response to a request from the Department of Fish and Game for use of Cargill's dredge, the *Mallard*, to assist with the construction of the Eden Landing Ecological Reserve. A separate letter from the department is enclosed which provides further explanation. An obstruction in Mt. Eden Creek will be removed and two new channels to carry tidal flows to the former Baumberg Salt plant will be constructed using the dredge. That will involve the entry and exit of two dredge locks as noted and extensive dredging for the new channels. The project design is under the supervision of the engineering staff at the East Bay Regional Park District. This work is currently underway, the North Creek tidal access is complete and the Pond 10 channel is currently being dredged.

### **TASKS 61 & 80**

This work is in support of a clean up effort by the San Francisco Public Utilities Commission. Pond SF2 in the Redwood City plant system has lead contaminated soils that will be removed by the PUC. The pond bottom must be relatively dry and accessible for access by construction equipment. The work indicated on Cargill's work plan will facilitate the PUC's efforts while allowing brines and bitterns to be moved through Pond SF-2 via pipelines. A pump platform will be installed to support a future pump. This work is complete and the pond bottom in the vicinity of the SFPUC work is being dried out.

### **TASKS 73, 74 & 80**

The Belle Haven Pump in the Redwood City plant works in tandem with a brine pump further north. By installing a new pipeline and new gate structure in the pump donut, both pumps can work simultaneously while pumping brines and bitterns in opposite directions. This improves the efficiency of the system markedly. This work is underway and will be completed shortly.

### **TASK 89**

This is probably the most important task in the workplan. The siphon to be replaced is 76 years old and has been filled with solid salt compounds and residues to the point where it is no longer effective. A new siphon will be needed to transmit the brines from Plant 1 ponds into the Plant 2 ponds. Removal of the existing siphon would cause needless disruption of the marsh and it will be left in place. If it is determined that it can be salvaged sufficiently, it will be used for return of bitterns from the Redwood City plant. Attempts to salvage the existing siphon by high pressure cleaning failed. As a result the directional drilling technique was used to install the new siphon and that work was completed successfully.

### **TASK 108**

To better link the pond systems for Redwood City, Plant 1 and Plant 2, where the final process, the salt harvest takes place, a number of high density, high strength pipes will be installed to allow return of Redwood City bitterns to existing bittern ponds, movement of brines from Plant 1 through the industrial area of Plant 2 and back into the Plant 2 pond system to continue the evaporation process. This work is 90% complete.

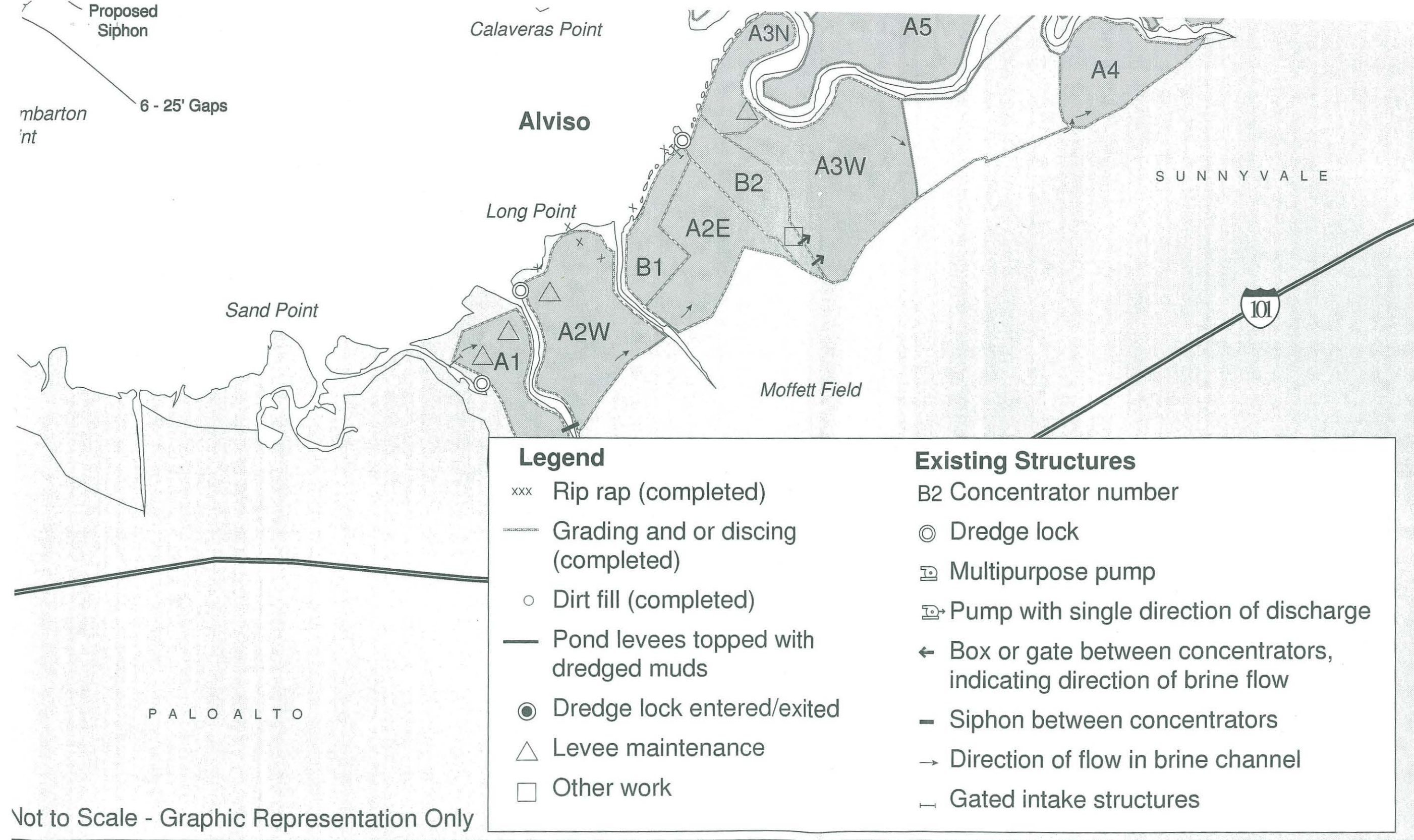
### **TASK 116 & TASK 145**

As part of the linking of ponds, a siphon will be constructed across Mowry Slough to Pond 1, Plant 2. This siphon will carry varying salinity brines from the ponds to the north and not highly saline brines from Pickle Pond 8. The pipeline will be on the shoulder of the road for Pond PP8, connected to internal plant pipelines, but not connected to Pond PP8. Completed, using directional drilling.

### **TASKS 127, 128, & 129**

To be covered by a separate permit amendment letter, these tasks combine the function of a dredge lock and siphon into one, new brine channel. Completed.





15 August 2002



